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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,250	10/12/2001	Takuhito Ueno	110863	8843

25944 7590 01/24/2007

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER	
ROHWER, JACOB P	
ART UNIT	**PAPER NUMBER**
2625	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/975,250	UENO ET AL.	
	Examiner	Art Unit	
	Jacob P. Rohwer	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ ~~Responsive to communication~~(s) filed on *27 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

Claims 18 and 21 are objected to because of the following informalities: Claim 18 Line 3 specifies "based on the a predictive" and Claim 21 Line 3 specifies "replay" when examiner believes it is meant to say "reply". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. **Claims 16-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No 6,542,253 to Kim, in view of US Patent No 6,084,934 to Garcia et al, and further in view of US Patent No 6,742,130 to Kawase.

Regarding claim 16, Kim discloses an image forming apparatus **(Fig 1 #14, Fig 2 #25)** having a warm-up time, **(Col 2 Lin 64—Col 3 Lin 9 and Col 5 Lin 6-10)** the image forming apparatus comprising:

a receiver **(Fig 2 #24)** configured to receive data from an external device **(Fig 1 #10)** being located outside of the image forming apparatus; **(Col 2 Lin 32-42)**

an image-forming portion configured to output an image corresponding to the received data; **(Fig 2 #25)**

a controller **(Fig 2 #21)** configured to control the image-forming portion to output the received data after a warm-up period. **(Col 2 Lin 64—Col 3 Lin 9 and Col 5 Lin 6-10)**

Although Kim discloses a communication interface that includes the receiver, Kim does not expressly disclose that the communication interface is configured to control a speed for receiving the data during the period of warm-up.

However, Garcia discloses a data transmission system, **(Fig 1)** wherein a communication interface is configured to control a speed for receiving the data. **(Col 3 Lin 61—Col 4 Lin 5)**

The Kim and Garcia Patents are combinable because they both come from the same field of endeavor relating to data transmission.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to control a speed for receiving the data as specified in Garcia, in the printing system of Kim.

The motivation for doing so would have been to provide a data transmission system that avoids the inefficiencies of the start/stop asynchronous scenarios that arise in data transmission due to a full data buffer at the receiving side of the transmission. **(Garcia, Col 2 Lin 8-15)**

Next, although Kim discloses a warm-up period for the printer, **(Col 2 Lin 64—Col 3 Lin 9 and Col 5 Lin 6-10)** Kim does not *expressly* disclose that this warm-up period is a transition from a power-saving mode to a normal printing mode.

However, Kawase discloses a transition period between a power-save mode to a normal printing mode as an amount of time for a printer to warm-up. **(Fig 2)**

The Kim and Kawase Patents are combinable because they both come from the same field of endeavor relating to data transmission and printing.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the warm-up period as specified in Kim, in order to transition from a power-save mode to the normal print mode as specified in Kawase.

The motivation for doing so would have been to provide a system that conserves power consumption while still allowing a sufficient amount of time for the printer to reach a state of functionality for proper output of image data.

Therefore it would have been obvious to combine the Kim, Garcia and Kawase Patents in order to obtain the invention as specified in claim 1.

Regarding claim 17, the combination further discloses the image forming apparatus according to claim 16, wherein:

the controller is further configured to, before going into an off-state, set information in the communication interface for controlling the speed for receiving the data; and

the communication interface is further configured to control the speed for receiving the data based on the information set by the controller. **(Kawase Fig 7 and Fig 8 S302, Col 13 Lin 35-45 and Col 14 Lin 15-30, the disclosure specifies that a power-save mode is determined before going into an off-state of power saving mode, and the modes specified vary in power consumption and communication**

speeds. In combination with Kim and Garcia as specified in the rejection of claim 16 above, it is disclosed that different speeds (modes) can be set before powering down so that optimum power conservation and data communication speed can occur.)

Regarding claim 18, the combination further discloses in Kim the image forming apparatus according to claim 16, wherein the communication interface is further configured to control the speed for receiving the data based on a predictive time length of the period set in the communication interface. **(Col 5 Lin 10-15 discloses correspondence between data transmission and a printer warm-up time.)**

Regarding claim 19, the combination further discloses in Garcia the image forming apparatus according to claim 16, comprising a storing portion configured to store the received data, wherein the communication interface is further configured to control the speed for receiving the data based on a residual capacity of the storing portion. **(Col 2 Lin 17-29)**

2. **Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kim, Garcia and Kawase as specified in claim 16 above, further in view of US Patent No 6,977,945 to Noda et al.

Regarding claim 20, the combination discloses in Kawase data and command transmission using packets. **(Col 11 Lin 18-30)**

The combination does not expressly disclose that the communication interface is further configured to control the speed for receiving the data based on information

indicating a maximum data payload to be received from the external device, the information being set in the communication interface.

However, Noda discloses a data transmission system and network interface for controlling the transfer rate of packets based on the size (data payload) of the packets. **(Col 2 Lin 14-22)**

The Kim, Garcia, Kawase and Noda Patents are combinable because they both come from the same field of endeavor relating to data transmission and printing.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to control the transfer rate based on the data payload of the packet as specified in Noda, in order to transmit the print data and command data as specified in the combination of Kim, Garcia and Kawase.

The motivation for doing so would have been to regulate transmission of data and avoid abnormal termination of a transmission due to error. **(Noda, Col 2 Lin 8-13)**

Therefore it would have been obvious to combine the Kim, Garcia, Kawase and Noda Patents in order to obtain the invention as specified in claim 20.

3. **Claims 22-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kim, Garcia and Kawase as specified in claim 16 above, further in view of commonly known prior art at the time of the invention.

Regarding claim 22, the combination discloses an image forming apparatus connected to an external device and a communication interface as specified in the rejection of claim 16 above, and that serial communication is used. **(Kim, Col 2 Lin 58-**

60) Additionally, Kawase discloses data transmission using packets as specified in the rejection of claim 20 above.

The combination does not *expressly* disclose that the data transmission occurs using a serial bus and that in order to process the data packets accordingly, or an address area in the packet is referred to in order to determine that the image forming apparatus is in fact the destination.

However, official notice is taken that at the time of the invention serial communication via a serial bus was very common for data transmission between an external device and an image forming apparatus. Furthermore, at the time of the invention, it was known that there was a header section within a packet that references an address of a network destination where the packet was intended to be transmitted.

It would have been obvious to use a serial bus/communication for the interface in the combination of Kim, Garcia and Kawase that uses addressed packets to send data including payload information. The motivation for doing so would have been to provide a high-speed communication for possibly multiple devices where the devices know where and how to respond to the commands over the network.

Therefore it would have been obvious to combine the Kim, Garcia, Kawase and commonly known prior art at the time of the invention in order to obtain the invention as specified in claim 22.

Regarding claim 23, the combination further discloses an image forming apparatus connected to an external device and a communication interface as specified in the rejection of claim 16 above. Additionally, the combination discloses deciding a

mode shift by detecting a change of an input control signal of a parallel interface, **(Kim, Col 2 Lin 58-60)** the mode shift including shifting from or to the normal mode. **(Kawase Fig 2, mode changes between Normal and Power-Saving, Col 11 Lin 18-31 Packet Communication)**

The combination does not *expressly* disclose using a serial bus. Again official notice is taken that this was a common element for communication between an external device and an image forming apparatus at the time of the invention. Please see rejection of claim 22 above.

4. Claims 21, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kim, Garcia, Kawase and Noda as specified in claim 20 above, further in view of commonly known prior art at the time of the invention as specified in claim 22 above.

Regarding claim 21, the combination discloses in Kawase data and command transmission using packets. **(Col 11 Lin 18-30)**

The combination does not expressly disclose that the communication interface is further configured to control the speed for receiving the data based on information indicating a reply rate of ACK response and NAK response to the external device, the information being set in the communication interface.

However, official notice is taken that an ACK or NAK response were very common responses in data packet communication at the time of the invention. As a result it would have been obvious to set a control speed for receiving data in the system of Kim, Garcia, Kawase and Noda based on an ACK or NAK response.

The motivation for doing so would have been to allow data reception when the image-forming device acknowledges data communication and reception from the external device, and not allow data reception when communication is not acknowledged. More specifically, the data reception speed would be required to be zero in the case of a NAK response, and the data reception speed could be set variably in the case of the an ACK response. This reads on the limitation that the speed is controlled based on the response as specified in claim 21.

Therefore it would have been obvious to combine the Kim, Garcia, Kawase, Noda and commonly known prior art in order to obtain the invention as specified in claim 21.

Regarding claim 24, please see rejections of claims 20 and 22 above.

Regarding claim 25, the combination discloses in Kawase data and command transmission using packets. **(Col 11 Lin 18-30)**

The combination does not expressly disclose that the communication interface is further configured to decide the speed for receiving the data based on a rate of notices informing that reception is normally completed, and notices informing that reception is not normally completed, in replying a receiving response to the external device.

However, Noda discloses a data transmission system and network interface for controlling the transfer rate in response to notices informing that reception is normally completed or not normally completed. **(Col 2 Lin 14-31 and Col 4 Lin 35-48, the data transfer rate is set in response to information from the network regarding whether there is a delay (not normal) or not (normal).)**

The Kim, Garcia, Kawase and Noda Patents are combinable because they both come from the same field of endeavor relating to data transmission and printing.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to control the transfer rate based on the notices from the network regarding normal or abnormal reception as specified in Noda, in order to transmit the print data and command data as specified in the combination of Kim, Garcia and Kawase.

The motivation for doing so would have been to regulate transmission of data and avoid abnormal termination of a transmission due to error. **(Noda, Col 2 Lin 8-13)**

Furthermore, please see rejection of claim 20 above regarding the official notice taken in reference to the serial bus.

Therefore it would have been obvious to combine the Kim, Garcia, Kawase, Noda and commonly known prior art in order to obtain the invention as specified in claim 25.

Response to Arguments

Applicant's arguments with respect to claims 16-25 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob P. Rohwer whose telephone number is 571-272-5509. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on 571-272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

1/18/07

AUNG MOE
PRIMARY EXAMINER